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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Ayla Kuran

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EXAMINER

SMITH, NATASHA N

ART UNIT

PAPER NUMBER

4132

NOTIFICATION DATE

DELIVERY MODE

10/17/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@vclmlaw.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/540,586	<b>Applicant(s)</b> KURAN ET AL.	
	<b>Examiner</b> NATASHA SMITH	<b>Art Unit</b> 4132	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 4-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 4-10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08 Aug 2005</u> .   | 6) <input type="checkbox"/> Other: ____.                          |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 4 and 5 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.
2. Claims 6-10 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:  

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claim 1 recites the limitation "the signals" in line 5. There is insufficient antecedent basis for this limitation in the claim. It is furthermore unclear what, if any, is the relationship between the signals and the function of the biosensor.
6. Claim 3 recites the limitation "the microbiologic pollution" in line 4. There is insufficient antecedent basis for this limitation in the claim. It is furthermore unclear whether these rates are based on any specific government, industrial or other standard.

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7. Claim 3 refers to acceptable maximum microbiologic pollution rates (MBN0, MBN1, MBN2, MBN3) for which specific values have not been assigned. It is unclear whether the numerical suffices have any necessary significance such as correlation to specific phases of the wash cycles.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Dausch et al. (US 5,560,060).

10. Claim 1 is drawn to a dishwasher comprising a washing tub where the appliances are put, a sump under the washing tub where the water in the washing tub is collected during the washing process, a memory to which parameters to be compared are loaded, a microprocessor which compares the signals with the parameters loaded to the memory and forwards the result of the comparison, and a control unit which arranges the washing program with respect to the data obtained from the microprocessor characterized with a biosensor which detects the microorganisms in the washing water.

11. Regarding claim 1: Dausch teaches a dishwasher comprising a washing tub where the appliances are put (see col. 3, lines 36-37), a sump where the wash water is collected (col. 3, line 40), a memory where parameters to be

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compared are loaded (col. 5, lines 1-3), a microprocessor which compares signals with the loaded parameters (col. 7, line 28), a control unit which arranges the washing program with respect to the data obtained from the microprocessor (col. 5, lines 4-9), and a biosensor which detects microorganisms in the water (col.3, lines 42-45).

12. The sensor used in the dishwasher disclosed by Dausch may be considered a biosensor in that it detects the presence of foreign substances that cause turbidity of the wash water. It would be expected that these substances include microorganisms such as bacteria that result from left over food particles on dishes waiting to be cleaned in the dishwasher, for example.

13. Claim 2 is drawn to the dishwasher of Claim 1, further comprising having the biosensor placed in a measurement chamber suitable for taking sample measurements.

14. Regarding claim 2: Dausch teaches the elements of claim 1 as explained above. Further, Dausch teaches placing the turbidity sensor in the circulation hose, which may be identified as the claimed measurement chamber (col. 3, lines 45-49). Claim 2 refers to an unspecified required amount of sample, which is interpreted broadly. Any amount of sample, which the sensor is capable of detecting, may qualify as sufficient amount for measurement by the sensor. Therefore, the claim is anticipated by Dausch, in that the sensor is accessible to the required amount of wash water for sampling.

15. Claim 3 refers to a dishwasher as in claim 1 characterized with memory comprising the acceptable maximum microbiologic pollution rates (MBN0, MBN1,

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MBN2, MBN3) preloaded by the producer in that the microbiologic pollution rate (MBN) measured by the biosensor in the washing cycles is compared.

16. Regarding claim 3: Dausch teaches the elements of claim 1 as explained above. Further, Dausch discloses a fuzzy logic system which inputs variables from a sensor in a dishwasher (col. 9, lines 1-2) and matches them with rules in a rule base to assign a confidence value. This value is then used by the microprocessor to be compared with a predetermined threshold value (col. 8, lines 28-55). These input variables disclosed by Dausch refer to a level of contamination of the water as detected by the sensor and are analogous to the MBN variables claimed by the applicant which also refer to the contamination level of the water. Both sets of variables serve as threshold values which are used to determine the next appropriate cycle of the wash program.

***Claim Rejections - 35 USC § 103***

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor

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and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

19. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobos et al. (US 6138692) in view of K  fferlein et al. (DE 4415823).

20. Claim 1 is drawn to a dishwasher comprising a washing tub where the appliances are put, a sump under the washing tub where the water in the washing tub is collected during the washing process, a memory to which parameters to be compared are loaded, a microprocessor which compares the signals with the parameters loaded to the memory and forwards the result of the comparison, and a control unit which arranges the washing program with respect to the data obtained from the microprocessor characterized with a biosensor which detects the microorganisms in the washing water.

21. Regarding claim 1: Kobos teaches a dishwasher comprising a washing tub where the appliances are put (col. 2, lines 19-20), a sump where water is collected (col. 2, line 21), a memory which stores programmed parameters (col. 4, lines 37-39), a microprocessor to receive signals from sensors (col.4, lines 22-23), and a control device to control the components of the wash cycles (col. 4, lines 10-15).

22. Kobos does not expressly teach the use of a biosensor within the dishwasher. K  fferlein teaches a dishwasher with a biosensor included to detect

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contamination in the circulating wash water (see col. 3, lines 11-18; see machine translation, paragraph 16).

23. It would have been obvious to one ordinary skill in the art at the time of invention to use a biosensor within a dishwasher that has programmable memory and control capabilities, such as the dishwasher disclosed by Kobos, to enhance that dishwashing process to detect contamination in the wash water.

24. Claim 2 refers to a dishwasher as in claim 1 characterized in that the biosensor is placed in a measurement chamber which is suitable for taking as much sample as required for measurement from the sump in every cycle of the washing process.

25. Regarding claim 2: Kobos in view of Kafferlein suggests the elements of claim 1 as explained above. Claim 2 refers to an unspecified required amount of sample, which is interpreted broadly. Any amount of sample in which the sensor is capable of detecting may qualify as sufficient amount for measurement by the sensor. Therefore, Kobos in view of Kafferlein suggests the subject matter of claim 2 since the biosensor in the dishwasher can be identified with the claimed biosensor in a measurement chamber (col. 2, lines 28-40; see machine translation paragraph 12) in which the sensor has sufficient access to the wash water being sampled.

26. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dausch et al. (US 5,560,060), and further in view of Rothgeb et al. (US 2003/0227394).



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27. Claim 1 is drawn to a dishwasher comprising a washing tub where the appliances are put, a sump under the washing tub where the water in the washing tub is collected during the washing process, a memory to which parameters to be compared are loaded, a microprocessor which compares the signals with the parameters loaded to the memory and forwards the result of the comparison, and a control unit which arranges the washing program with respect to the data obtained from the microprocessor characterized with a biosensor which detects the microorganisms in the washing water.

28. Regarding Claim 1: Dausch discloses a dishwasher (see column 3, lines 35) comprising a container for containing articles during washing (col. 3, lines 36-37), a sump to collect water during the washing process (col. 3, line 40), a memory to which the parameters to be compared are stored (col. 4, line 67- col. 5, lines 1-3), a microprocessor which compares the signals with the parameters loaded to the memory (col. 8, lines 28- 55), and a control unit (col. 7, 17-22).

29. Dausch discloses the use of a turbidity sensor within the dishwasher to sense the liquid turbidity of the wash water (col. 3, lines 42-49). It is well known in the art that turbidity in dish water can arise from the particulate matter, leftover soil, and the reproduction of bacteria on dishes that are waiting to be cleaned. Nevertheless, this turbidity sensor may not be considered a biosensor as claimed.

30. Rothgeb discloses a sensor device that facilitates the monitoring of chemical and/or physical characteristics in a liquid environment, particularly in automatic machines used for dish cleaning (see page 1, [0008]). Rothgeb

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defines "chemical and/or physical characteristic" as a condition, ingredient, or property of the surrounding environment including biological activity (page 3, [0050]).

31. Therefore, it would have been obvious to one skilled in the art at the time of the invention to couple a sensor of Rothgeb, such as a biosensor, with a conventional dishwasher of Dausch to detect biological activity in the wash water in order to optimize thorough cleaning and to obtain dishes that would be biologically safe for the user.

32. Regarding claim 2: Dausch in view of Rothgeb suggests the elements of claim 1 as explained above.

33. Dausch discloses a turbidity sensor mounted in a recirculation hose through which water from the sump is distributed to the dishes (col. 3, lines 40-49). The sensor detects the condition of the wash water from the sump as it passes through the recirculation hose.

34. Rothgeb discloses a sensor device, including a biological activity sensor which is "self-contained" and "wireless", which allows it to be freely positioned in a surrounding environment, such as a liquid medium (page 3, [0050]).

35. Therefore, it would have been obvious to one skilled in the art at the time of invention to couple the biosensor with the conventional dishwasher, and position said biosensor in such a chamber that allows for taking as much sample as required for measurement from the sump to ensure close proximity of the sensor with the water to be detected, and subsequently, provide accurate

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detection of the wash water conditions. Positioning in this manner would meet the claimed positioning requirement.

36. Further, claim 2 refers to an unspecified required amount of sample, which is interpreted broadly. Therefore, any amount of sample in which the sensor is capable of detecting may qualify as sufficient amount for measurement by the sensor.

37. Claim 3 refers to a dishwasher as in claim 1 characterized with memory comprising the acceptable maximum microbiologic pollution rates (MBN0, MBN1, MBN2, MBN3) preloaded by the producer in that the microbiologic pollution rate (MBN) measured by the biosensor in the washing cycles is compared.

38. Regarding claim 3: Dausch and Rothgeb disclose the elements of claim 1 as explained above. Neither reference discloses a memory with the acceptable maximum microbiologic pollution rates (MBN0, MBN1, MBN2, MBN3) preloaded by the producer.

39. Dausch discloses a fuzzy logic system in which inputs from a turbidity sensor- VERY LOW, LOW, MED, HIGH (col. 9, lines 1-2)- in a dishwasher are matched with rules in a rule base and given a confidence value which is used by the microprocessor to be compared with a predetermined threshold value (col. 8, lines 28-55). These four variables refer to a level of contamination of the water as detected by the sensor and may be equated with the MBN variables disclosed by the applicant which also refer to the contamination level of the water. Both sets of variables serve as threshold values which are used to determine the next appropriate cycle of the wash program.

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40. Rothgeb discloses the use of a sensor device capable of monitoring biological activity that includes a recording component in which a microcontroller is preprogrammed with variables, such that the signals sensed by the device may be scaled and recorded for subsequent interpretation (page 9, [0017]).

41. Therefore, it would have been obvious to one skilled in the art at the time of invention to preprogram thresholds for biological activity since these threshold rates would correspond to the measured values of the utilized sensor.

***Examiner's Comment***

42. A translation of DE4415823 has been ordered from the Translations Branch.

***Conclusion***

43. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATASHA SMITH whose telephone number is (571)270-7382. The examiner can normally be reached on Monday-Thursday; 8AM-5PM.

44. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Lavilla can be reached on (571) 272-1539. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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45. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/NATASHA SMITH/  
Examiner, Art Unit 4132  
2 October 2008

**/Michael La Villa/  
Michael La Villa  
Supervisory Patent Examiner, Art Unit 4132  
14 October 2008**